

### **REMARKS**

Claims 1 and 15 are amended. Claims 1, 3-12, 15-19, 21-28 and 39 will be pending upon entry of the present amendment. Applicant reserves the right to file continuing applications or take any other such appropriate measure to prosecute the subject matter cancelled by amendment.

#### **The Rejections Under 35 U.S.C. §112, Second Paragraph Should be Withdrawn**

Claims 1, 3-12, 15-19 and 21-28 were rejected under 35 U.S.C. §112, second paragraph, for indefiniteness. As support for this rejection of claims 1 and 3-12, the Office Action indicates that the term “association” in independent claim 1 is unclear as to “just what the oligonucleotide is association with, much less how it is associating”.

This rejection is respectfully traversed. In this regard, claim 1 clearly states “. . . between the detectable moiety and the oligonucleotide . . .”. See claim 1(b). Nevertheless, to expedite prosecution, claim 1 is amended as set forth above to explicitly recite the phrase “organometallic coordinate covalent bond between the detectable moiety and the oligonucleotide . . .”. Accordingly, the rejection of claims 1 and 3-12 are obviated by amendment and should be withdrawn.

The Office Action indicates that claims 15, and claims 16-28 dependent thereon, are rejected for recitation of the phrase “labeled by . . . an association independent of a dual contribution covalent bond.” Claim 15 is amended as set forth above to recite the phrase “. . . labeled with a fluorescent compound through an organometallic coordinate covalent bond . . .”. Accordingly, this rejection of claims 15 and 16-28 is rendered obviated.

In light of the above, Applicants respectfully request that this rejection of claims 1, 3-12, 15-19 and 21-28 under 35 U.S.C. §112, second paragraph, be withdrawn.

**The Rejections Under 35 U.S.C. §103(a) Should be Withdrawn**

Claims 1, 3-12, 15-19, 21-28 and 39 were rejected under 35 U.S.C. §103(a) for obviousness over US Patent 6,268,148 (Barany et al.) in view of US Patent Application Publication 2002/0119526 A1 (Zuker et al.) and US Patent 6,444,111 (Montgomery). As a basis for this rejection, the Office Action indicates that it would have been obvious to the ordinarily skilled artisan to have modified the primers of Barany et al. with the labeling method of Zuker et al.; and also the artisan would have been motivated to have modified the fluorescent label of Barany et al. and Zuker et al. with that of Montgomery, as Montgomery teaches that by doing so unwanted, unintentional fluorescence is quenched, thereby allowing for increased sensitivity.

The Office Action indicates that the primary reference of Barany et al., and the secondary reference of Zuker et al. "have not been found to explicitly teach using a metal containing fluorescent compound." Consistent with this indication of the Office Action, Applicants submit that the primary reference, alone or in combination with the secondary reference of Zuker et al. is completely deficient with regards to any teaching or even mention of organometallic compounds.

The second secondary reference, Montgomery, does not remove this deficiency. Montgomery et al. refer to arrays containing electrodes composed of metal, such as platinum. *See* bridging paragraph, columns 22-23 of US Patent 6,444,111. With respect to fluorescently labeled oligonucleotides, Montgomery refers to exposing or coating the array in solutions of fluorescently labeled oligonucleotides. *See*, for example, column 30, final paragraph, lines 46-50. Clearly, and in contrast to the presently claimed invention under consideration, the metal platinum is not part of the fluorescent label molecule. Montgomery et al. further discuss epifluorescent microscopy in the presence and absence of fluorescent coating; indicating that

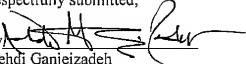
“the electrodes appear dark in the photomicrographs when they are uncoated, when no fluorescent coating is present, because the metal of the electrodes, e.g., the platinum, quenches any fluorescence present.” See column 31, lines 31-35 and column 7, lines 59-65 of US Patent 6,444,111. Applicants submit that the quenching referred to in Montgomery et al. is in the context of absence of a fluorescent molecule. In contrast, “when the electrodes are coated with a membrane containing fluorescent material, the area proximate/over the electrodes is bright.” See lines 5-8, column 8, US Patent 6,444,111. Therefore, Applicants submit that the Office Action has not provided any indication of the contribution of platinum to the quenching of fluorescence under conditions in which a fluorescent compound is present as well as the metal. Furthermore, as indicated above, the Montgomery reference does not even mention a metal containing fluorescent compound. In light of the above, Applicants submit that the Office Action has not set forth a well-reasoned statement as to how the Montgomery reference removes the above-stated deficiencies of the primary reference, alone or in combination with the secondary reference of Zuker et al. Applicants further submit that the ordinarily skilled artisan would not be able to envision the presently claimed invention containing the citation “organometallic coordinate covalent bond”, let alone be motivated by the combination of references to use such a compound as claimed in the processes of the presently claimed invention under consideration; let alone with any reasonable expectation of success. Accordingly, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a).

In light of all of the above, Applicants respectfully request that this rejection of the claims under consideration, under 35 U.S.C. §103(a) be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance, and such allowance is respectfully solicited.

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Respectfully submitted,

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